

Patent Claims

1. A tap changer for the interruption-free switching between different winding taps of tapped transformer in accordance and the principle of a resistance-type rapid acting switch,

5 comprised of a fine selector and optionally of a preselector for the powerless selection of the winding tap to which a subsequent switchover is to be effected,

10 comprised in addition of a load switch for the subsequent rapid switchover from the previous winding tap to the selected winding tap with a brief insertion of at least one bridging resistance,

15 whereby both the fine selector and the optional preselector and also the load switch is actuatable by a drive,

characterized in that a torque motor is provided as the drive.

2. The tap changer according to claim 1 characterized in that at least one torque motor as well as a known force accumulator actuates the load switch as well as the fine selector and optional preselector.

20 3. The tap changer according to claim 1 characterized in that at least the one torque motor actuates directly both the load switch and the fine selector and optional preselector.

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4. The tap changer according to claim 1 characterized in that at least one first torque motor respectively directly actuates the known force accumulator of the load switch and at least one second torque motor respectively actuates the fine selector and optional preselector.

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5. The tap changer according to claim 1 characterized in that at least one first torque motor respectively actuates the load switch directly, at least one second torque motor respectively actuates the fine selector and optionally a third torque motor respectively actuates the preselector.

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6. A tap changer for uninterrupted switching between different winding taps of a tapped transformer in accordance with the principle of a resistance type rapid switch,

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comprised of a load selector for the simultaneous selection of the winding tap to which switchover is to be effected, as well as for the rapid switchover for the previous to the selected winding tap with brief insertion of bridging resistance, whereby for the switchover a spring like jump switching element, especially a switching column is provided, characterized in that as a drive for that switching element a torque motor is provided.

7. The tap changer according to claim 6 characterized in that the at least one torque motor directly actuates a known force accumulator which in turn displaces the switch element with a spring like jump in known manner and also actuates any optional preselector.

8. The tap changer according to claim 6 characterized in that the at least one torque motor directly displaces the switch element with the spring like jump and also operates any optional preselector.

9. The tap changer according to claim 6 characterized has in that an at least one first torque motor directly displaces the switch element with the spring like jump and optionally at least one second torque motor directly actuates the preselector.

10. The tap changer according to one of claims 1 to 5 characterized in that the load switch on the one hand and the fine selector and optional preselector on the other are arranged to be specially separate from one another and/or the fine selector and optional preselector are separately drivable by at least one stepping motor.

11. The tap changer for uninterrupted switching between different winding taps of a tap transformer in accordance with the principle of a reactor switching, comprised of a fine selector with two load branches between which in each of the switching phases a vacuum switching cell is arranged,

comprised of a preselector, comprised of a bypass contact which bridges the vacuum switching cells respectively and in turn connects at least one of the two load branches with the load output line as well as a force accumulators which actuates the respective vacuum switching cell;

whereby a single drive is provided which by means of various transmissions and drive shafts actuates all of the mentioned parts,

characterized in that as the drive at least one torque motor.

12. The tap changer according to claim 11 characterized in that the at least one torque motor actuates all drive shafts.

13. The tap changer according to claim 11 characterized in that separate three separate torque motors are so arranged that each of them actuates the parts of one phase, namely, the preselector, fine selector, bypass contact and force accumulator of the vacuum switching cell.

14. The tap changer according to claim 11 characterized
in that for each phase other separate torque motors are provided,
one of which actuates a preselector and fine selector and the
other actuates the bypass contact and force accumulator of the
vacuum switching cell.

15. The tap changer according to claim 11 characterized
in that for each phase three separate torque motors are provided of
which respectively actuates the preselector, one actuates the fine
selector and one actuates both the bypass contact and also of the
force accumulator of the vacuum switching cell.

16. The tap changer according to claim 11 characterized
in that a total of three separate torque motors are provided of
which one actuates the preselectors of all three phases, one other
actuates the fine selectros of all three phases and the third both
the bypass contacts and also the force actuator of the vacuum
switching cells.